

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claims 1-32 (Cancelled).

Claim 33 (Currently Amended): A monitoring Monitoring device for a multichannel numeric switch, the switch including a connecting interface for connecting physical connection circuits to a transmission medium, defining at least one of source and destination ports, the connecting interface including a physical layer and a logical layer, and a processing unit for carrying out selective switching of multifield data grids between the different ports, comprising:

a probe unit coupled selectively to the connecting interface, configured to observe data between the physical layer and the logic layer; and

a monitoring unit configured to analyze contents of at least part of the data grids probed by the probe unit, and configured to generate a warning signal when the part analyzed does not meet a selected condition.

Claim 34 (Previously Presented): Device according to claim 33, wherein the monitoring unit is further configured to analyze contents of at least part of a field of the data grids probed by the probe unit.

Claim 35 (Previously Presented): Device according to claim 34, wherein the monitoring unit is further configured to analyze contents of at least part of a field of each grid probed by the probe unit.

Claim 36 (Previously Presented): Device according to claim 33, wherein the probe unit is configured to probe grids including at least one of a logic channel field, one physical channel field, and a data field.

Claim 37 (Previously Presented): Device according to claim 33, wherein the probe unit is configured to probe grids including at least one of a grid start field, a destination port address field, a source port address field, and a data field.

Claim 38 (Previously Presented): Device according to claim 33, wherein the probe unit is configured to probe grids including at least one of a virtual path identifier field, a virtual channel identifier field, a payload type field, and a data field.

Claim 39 (Previously Presented): Device according to claim 36, wherein the monitoring unit comprises a table of correspondence specifying for each port connected to the connection circuits a list of authorized grids comprising at least the ports with which the respective port can exchange the grids, and wherein the monitoring unit is further configured to compare contents of this table of correspondence to that of at least one of the fields of the grid being transferred, to generate the warning signal when its field or fields analyzed designate a port that does not have a correspondence with the source port transmitting the grid, this correspondence forming a chosen condition.

Claim 40 (Previously Presented): Device according to claim 37, wherein the monitoring unit comprises a table of correspondence specifying for each port connected to the connection circuits a list of authorized grids comprising at least the ports with which the respective port can exchange the grids, and wherein the monitoring unit is further configured

to compare contents of this table of correspondence to that of at least one of the fields of the grid being transferred, to generate the warning signal when its field or fields analyzed designate a port that does not have a correspondence with the source port transmitting the grid, this correspondence forming a chosen condition.

Claim 41 (Previously Presented): Device according to claim 38, wherein the monitoring unit comprises a table of correspondence specifying for each port connected to the connection circuits a list of authorized grids comprising at least the ports with which the respective port can exchange the grids, and wherein the monitoring unit is further configured to compare contents of this table of correspondence to that of at least one of the fields of the grid being transferred, to generate the warning signal when its field or fields analyzed designate a port that does not have a correspondence with the source port transmitting the grid, this correspondence forming a chosen condition.

Claim 42 (Currently Amended): Switch Device according to claim 39, wherein the analyzed field or fields is or are chosen from at least the logic channel field and the physical channel field.

Claim 43 (Currently Amended): Switch Device according to claim 40, wherein the analyzed field or fields is or are chosen from at least the destination port address field of the grid and the source port address field of the grid.

Claim 44 (Currently Amended): Switch Device according to claim 41, wherein the analyzed field or fields is or are chosen from at least the virtual path identifier field and the virtual channel identifier field.

Claim 45 (Currently Amended): Switeh Device according to claim 39, wherein the table of correspondence includes for each source or destination port at least one list of associated destination addresses, a list of associated source addresses, a list of grid flux types authorized on the port, accompanied by temporal features of each of the fluxes, and a list of the grid lengths authorized to circulate on the port.

Claim 46 (Currently Amended): Switeh Device according to claim 45, wherein the table of correspondence is stored in a modifiable memory selected from at least a live memory, a flash memory, and an assembly of registers each associated with a port and having an individually configurable content.

Claim 47 (Previously Presented): Device according to claim 44, wherein the memory is configured to permit access by writing and/or reading for monitoring.

Claim 48 (Previously Presented): Device according to claim 42, wherein the monitoring unit is configured to effect its comparison on the logic channel field, then on the physical channel field.

Claim 49 (Previously Presented): Device according to claim 43, wherein the monitoring unit is configured to effect its comparison on the destination address field, then on the source address field.

Claim 50 (Previously Presented): Device according to claim 44, wherein the monitoring unit is configured to effect its comparison on the virtual path identifier field, then on the virtual channel identifier field.

Claim 51 (Previously Presented): Device according to claim 39, wherein the monitoring unit is further configured to determine whether contents of the data field of the grid probed by the probe unit has a predetermined format, and to generate the warning signal when at least part of the data field does not verify the format, this verification of format forming the chosen condition.

Claim 52 (Previously Presented): Device according to claim 39, wherein the monitoring unit is further configured to determine a type of grid probed by the probe unit by analyzing contents of its type field, to generate the warning signal when the type field does not correspond to the predetermined type associate with the port having transmitted the grid, this verification of type forming the chosen condition.

Claim 53 (Previously Presented): Device according to claim 39, wherein the monitoring unit is further configured to measure outputs of grids probed by the probe unit, according to their type, and to generate the warning signal when the measured output associated with its type does not correspond to a predetermined output, this verification of output forming the chosen condition.

Claim 54 (Previously Presented): Device according to claim 39, wherein the monitoring unit is further configured to measure for each source port a temporal distance between grids of a same type which it has transmitted, and to generate the warning signal

when the temporal distance measured associated with its type does not correspond to a predetermined distance, this verification of distance forming the chosen condition.

Claim 55 (Previously Presented): Device according to claim 39, wherein the monitoring unit is further configured to measure for each destination port a temporal distance between grids of a same type that it has received, and to generate the warning signal when the distance measured associated with its type does not correspond to a predetermined temporal distance, this verification of distance forming the chosen condition.

Claim 56 (Previously Presented): Device according to claim 36, wherein the monitoring unit is further configured to measure a length of each grid probed by the probe unit, and to generate the warning signal when its measured length does not correspond to a predetermined length associated with its type, this verification of length forming the chosen condition.

Claim 57 (Previously Presented): Device according to claim 36, wherein the monitoring unit is configured to make compatible at each port a number of grids that it transmits and a number of grids that it receives, so as to estimate for each port a rate of use, and to trigger invalidation of a connection between a port and the connection circuits to which it is connected when its estimated rate of use does not correspond to a predetermined rate associated with the type of grid of this port.

Claim 58 (Previously Presented): Device according to claim 33, wherein the monitoring unit is configured to make compatible each generation of a warning signal associated with each port and to trigger invalidation of the connection between a port and to

trigger invalidation of the connection between a port and the connection circuits when a number of warning signals generated made compatible for this port is higher than a threshold.

Claim 59 (Previously Presented): Device according to claim 33, wherein the monitoring unit is configured to make compatible each warning signal generated associated with each port and to trigger rejection by the processing unit of the grid seen by the probe unit, when a number of warning signals generated made compatible for a port is higher than a threshold.

Claim 60 (Previously Presented): Device according to claim 33, wherein the monitoring unit is configured to make compatible each warning signal generated associated with each port and to trigger rejection by the processing unit of the grid probed by the probe unit, when a number of warning signals generated made compatible for a port is higher than a threshold.

Claim 61 (Previously Presented): Device according to claim 33, wherein the monitoring unit is configured, upon the transmission of a warning signal, to trigger rejection of the grid probed by the probe unit.

Claim 62 (Previously Presented): Device according to claim 33, wherein the monitoring unit is configured, upon transmission of a warning signal, to trigger the processing unit to reject the grid probed by the probe unit.

Claim 63 (Previously Presented): Device according to claim 61, wherein the monitoring unit is configured to make compatible each rejection associated with each port

and to trigger invalidation of the connection between a selected port and the connecting circuits when a number of rejections made compatible for the selected port is higher than a threshold.

Claim 64 (Previously Presented): Switch, comprising a device according to claim 33.

Claim 65 (Currently Amended): ~~Communication~~ A communication installation, comprising at least one switch equipped with at least one device according to claim 33, the ports of the switch being connected to machines and computers.

Claim 66 (Currently Amended): ~~Installation~~ The communication installation according to claim 65, wherein it is implanted in an airship comprising a flight management computer and a flight control computer.

Claim 67 (New): A monitoring device for a multichannel numeric switch, the switch including a connecting interface for connecting physical connection circuits to a transmission medium, defining at least one of source and destination ports, and a processing unit for carrying out selective switching of multifield data grids between the different ports, comprising:

a probe unit coupled selectively to the connecting interface; and

a monitoring unit configured to analyze contents of at least part of the data grids probed by the probe unit, and configured to generate a warning signal when the part analyzed does not meet a selected condition,

wherein the probe unit is configured to probe grids including at least one of a logic channel field, one physical channel field, and a data field,

wherein the monitoring unit comprises a table of correspondence specifying for each port connected to the connection circuits a list of authorized grids comprising at least the ports with which the respective port can exchange the grids, and

wherein the monitoring unit is further configured to compare contents of this table of correspondence to that of at least one of the fields of the grid being transferred, to generate the warning signal when its field or fields analyzed designate a port that does not have a correspondence with the source port transmitting the grid, this correspondence forming a chosen condition.

Claim 68 (New): The monitoring device according to Claim 33, wherein the monitoring unit is further configured to determine whether an address of a destination grid of the data does not correspond to the port analyzed by the respective monitoring unit.

Claim 69 (New): The monitoring device according to Claim 33, wherein the probe unit is further configured to separately observe data transmitted from the physical layer to the logic layer, and data transmitted from the logic layer to the physical layer.